REMARKS

The applicant respectfully requests reconsideration in view of the amendment and the following remarks. The applicant has amended claim 22 by deleting hydrogen from the definition of F. The applicant has added a period to the end of claims 24, 25, 31, and 35. The applicant added the proviso from the original claim 1 to the end of claims 38 and 40. Support for newly added claims 42 and 43 can be found in the published specification at paragraph no. 129. No new matter has been added.

A fee of $100.00 for the extra two claims over twenty can be charged to Deposit Account No. 03-2775 under Order No. 13077-00142-US from which the undersigned is authorized to draw.

Claims 32 and 33 were rejected under 35 USC §112, second paragraph. Claims 38-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Krishnamoorthy et al. (Synthetic Metals 124 (2001), pages 471-475) ("Krishnamoorthy"). Claims 37 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krishnamoorthy cited in the section 4 above. Claims 21, 24, 28, 30-31 and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krishnamoorthy et al. cited in the section 4 above. Claims 2 1-22, 24-25, 28-31 and 34-4 1 are rejected under 35 U.S.C. 102(b) as being anticipated by Kros et al. (Polymer Chemistry, 40(6), pages 738-747) ("Kros"). Claims 28, 30-31, 34-36 and 38-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Besbes et al. (Advance Materials, 2001, 13. No.16 pages 1249-1252) ("Besbes"). Claims 37 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Besbes cited in the section 8 above. The applicant respectfully traverses these rejections.

Applicant appreciatively acknowledges the indication of allowable subject matter recited

in Claims 23, 26 and 27. For the reasons stated below, the applicant believes that all the claims are allowable.

Claim Rejection - 35 USC § 112

Claims 32 and 33 were rejected under 35 USC §112, second paragraph. The polythiophenes of the invention can be uncharged and semiconducting or they can be cationic and electrically conductive (see page 21, line 21 - page 22, line 5 of the specification). Claim 30 covers these two kinds of polythiophenes. Claim 32 covers the cationic polythiophenes and in this case it is necessary to compensate the positive charge by having anions as counterions. Therefore, the applicant believes that claims 32-33 are covered by claim 30. For the above reasons, this rejection should be withdrawn.

RejectionsOver Krishnamoorthy

Claims 38-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Krishnamoorthy. Claims 37 and 4l are rejected under 35 U.S.C. 103(a) as being unpatentable over Krishnamoorthy cited in the section 4 above. Claims 21, 24, 28, 30-31 and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krishnamoorthy cited in the section 4 above.

Krishnamoorthy is discussed in the applicant's specification at page 3, lines 19-26. The applicant has amended claims 38 and 39 by excluding the compound mentioned in Krishnamoorthy. Therefore, the anticipation rejection should be withdrawn.

With respect to claims 37 and 41 these claims are directed to a process. One step of the process for preparing conductive layers according to the applicant's invention is the heat

treatment (see claims 42 and 43). Due to this heat treatment the conductivity is increased and the surface resistance is decreased after the heat treatment (see page 31, line 14 - page 32, line 17 and examples 13, 15, 17 and 19). For a person of ordinary skill in the art this effect is surprising, i.e. one of ordinary skill in the art would not expect that the conductivity is increased by heat treatment. This effect can also not be attributed to the removal of the solvent. Krishnamoorthy does not specifically disclose a process for preparing conductive layers. Furthermore Krishnamoorthy does not mention any heat treatment step. Therefore, a person skilled in the art might expect that the compounds disclosed by Krishnamoorthy could be used for preparing a conductive layer but this person could not expect the enormous increase of conductivity by employing this heat treatment step for preparing a conductive layer.

With respect to claims 21, 24, 28, 30-31 and 34-36, Krishnamoorthy discloses the compounds (monomer and polymer) disclaimed from the present application. Krishnamoorthy describes the properties of these compounds for improving electrochromic contrast, for example in electrochromic devices. This publication is completely silent about the mesogenic properties of those compounds and further it does not mention any advantageous effect on conductivity which might be caused by a mesogenic group. A person of ordinary skill in the art would not take Krishnamoorthy as a starting point to come to the applicant's claimed invention, i.e. novel liquid-crystalline compounds, as Krishnamoorthy does not specifically disclose the mesogenic properties of the compounds and any advantage deduced thereform (like for example the conductivity). The applicant believes that a person skilled in the art would not have considered taking the teaching of Krishnamoorthy to come to the applicant's claimed invention. For the above reasons, these rejections should be withdrawn.

Rejections Over Kros

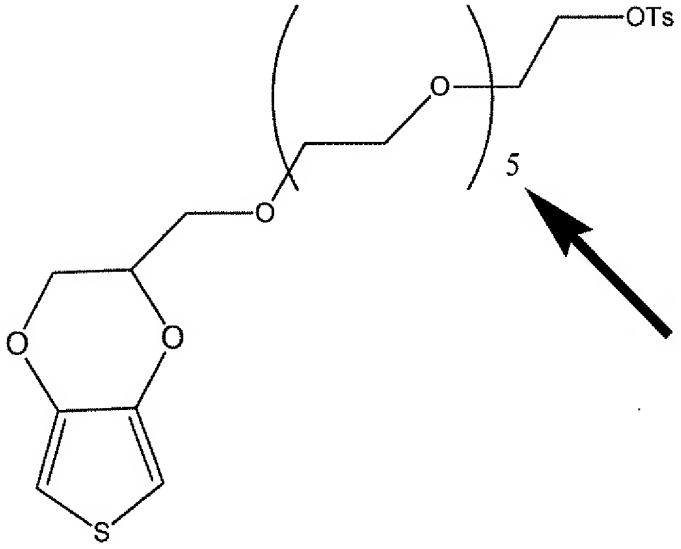
Claims 2 1-22, 24-25, 28-31 and 34-4 1 are rejected under 35 U.S.C. 102(b) as being anticipated by Kros. Kros discloses substituted 3,4-alkylenedioxythiophene compounds having an unsubstituted benzylene group at the side chain (see compounds 3 and 4 on page 741) and polymers thereof. The applicant has informed the undersigned that it is commonly known, that an unsubstituted benzylene group does not represent a mesogenic group and therefore is not covered by the pending claim 21. The pending claim 22 erroneously comprised an unsubstituted benzylene group (see X^1 = phenylene group, B = methylene group).

Hence, the applicant has amended claim 22 so that the residue F can not represent hydrogen. Further, Kros describes a copolymerization of the above compound 3 or 4 with 3,4-ethylenedioxythiophene (EDOT). Such a copolymerization is not covered by the applicant's claimed invention, as EDOT does not fall under one of the applicant's formulas. For the above reasons, this rejection should be withdrawn.

Claims 28, 30, 31, 34-36 and 38-40:

Claims 28, 30-31, 34-36 and 38-40 are rejected under 35 U.S.C. 102(b) as being anticipated byBesbes. Claims 37 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Besbes cited in the section 8 above.

The polythiophenes described by Besbes are not covered by the pending claims as they do not fall under the applicant's claimed general formulas. Besbes polythiophenes are of the following general formula.



corresponds to the symbol "t" in the applicant's claimed invention

See the bridging group B in the applicant's claimed formula in which "t" can represent 0 or 1 but not 5 as is required by Besbes.

As stated above, with respect to claims 37 and 41 these claims are directed to a process. One step of the process for preparing conductive layers according to the applicant's invention is the heat treatment (see claims 42 and 43). Due to this heat treatment the conductivity is increased and the surface resistance is decreased after the heat treatment (see page 31, line 14 - page 32, line 17 and examples 13, 15, 17 and 19). For a person skilled in the art this effect is surprising, i.e. one skilled in the art would not expect that the conductivity is increased by heat treatment. This effect can also not be attributed to the removal of the solvent. Besbes does not specifically disclose a process for preparing conductive layers. Furthermore, Besbes does not mention any heat treatment step, Therefore, a person skilled in the art might expect that the compounds disclosed by Besbes could be used for preparing a conductive layer but this person could not expect the enormous increase of conductivity by employing this heat treatment step for preparing a conductive layer. For the above reasons, these rejections should be withdrawn.

Favorable consideration of this Application as presently amended and in light of the following discussion is respectfully requested.

CONCLUSION

Consequently, in view of the foregoing amendment and remarks, it is respectfully submitted that the present Application, including Claims 21-43 is patently distinguished over the prior art, in condition for allowance, and such action is respectfully requested at an early date.

A three month extension fee has been paid. If there are any additional fees due in connection with the filing of this response, including any fees required for an additional extension of time under 37 C.F.R. 1.136, such an extension is requested and the Commissioner is authorized to charge or credit any overpayment to Deposit Account No. 03-2775 under Order No. 13077-00142-US from which the undersigned is authorized to draw.

Respectfully submitted,

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